



# SAW Components

Data Sheet B4956





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Low-Loss Filter for Mobile Communication

85,38 MHz

Data Sheet



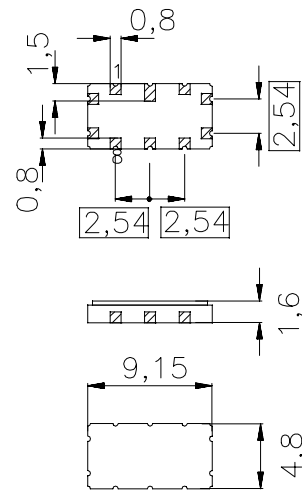
Ceramic package **QCC10B**

**Features**

- IF filter for mobile telephone
- Channel selection in CDMA systems
- Balanced or unbalanced operation possible
- High rejection, very small size
- Low amplitude ripple
- Filter surface passivated
- Package for **Surface Mounted Technology (SMT)**

**Terminals**

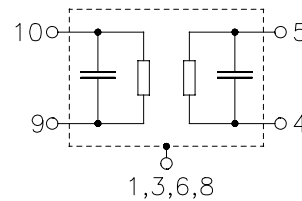
- Gold plated



Dimensions in mm, approx. weight 0,23 g

**Pin configuration**

- |            |                          |
|------------|--------------------------|
| 10         | Input                    |
| 9          | Balanced input or ground |
| 5          | Output                   |
| 4          | Balanced output          |
| 2, 7       | To be grounded           |
| 1, 3, 6, 8 | Case ground              |



Type	Ordering code	Marking and Package according to	Packing according to
B4956	B39850-B4956-Z710	C61157-A7-A49	F61074-V8172-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	- 40/+ 85	°C	Machine Model, 10 pulses
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	3	V	
ESD voltage	$V_{ESD}^*$	100	V	
Source power	$P_s$	10	dBm	

\* - acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses



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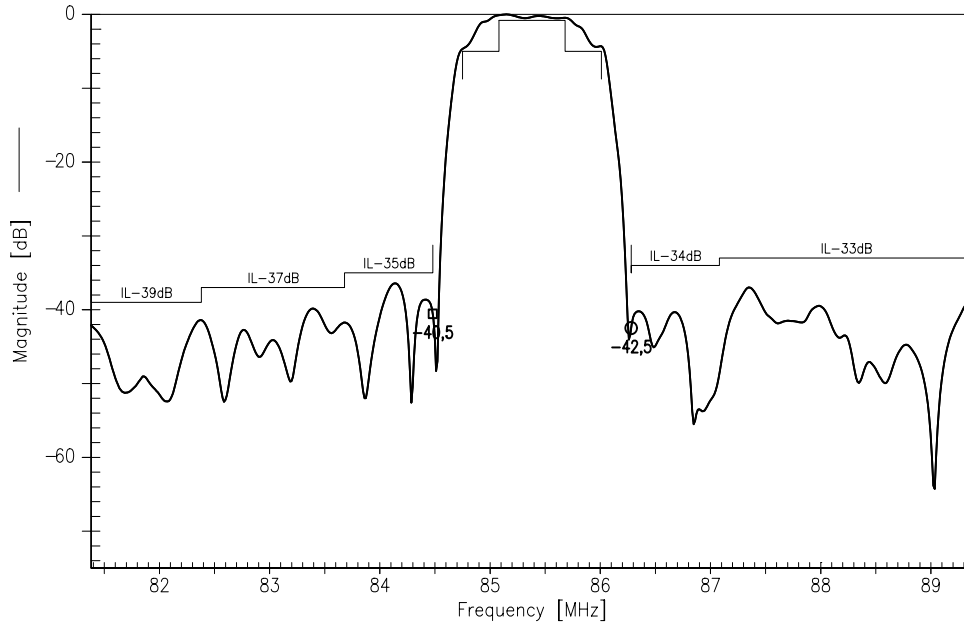
**Characteristics**

Operating temperature range:  $T = -35^{\circ}\text{C} \dots +85^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 1570\ \Omega \parallel 361\ \text{nH}$   
 Terminating load impedance:  $Z_L = 500\ \Omega \parallel 258\ \text{nH}$

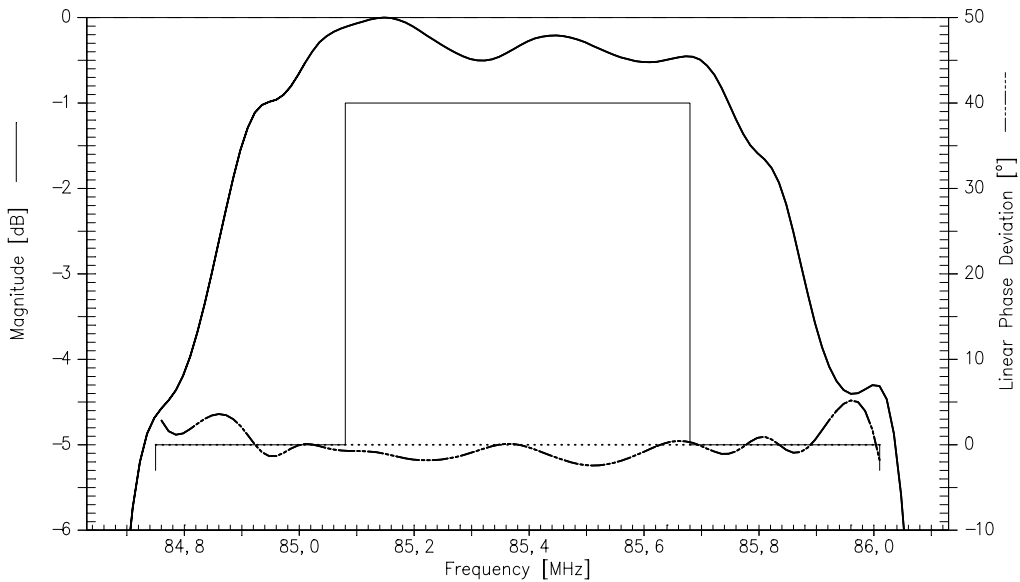
		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	85,38	—	MHz
<b>Minimum insertion attenuation</b> (without loss in matching network)	$\alpha_{\min}$	—	9,0	10,8	dB
<b>Minimum insertion attenuation</b> (with loss in matching network according to figure 1)	$\alpha_{\min}$	—	11,3	12,8	dB
<b>Amplitude ripple</b>	$\Delta\alpha$				
$f_N - 0,3\ \text{MHz} \dots f_N + 0,3\ \text{MHz}$		—	0,4	1,0	dB
<b>Phase linearity (rms deviation)</b>					
$f_N - 0,615\ \text{MHz} \dots f_N + 0,615\ \text{MHz}$		—	2,0	3,5	$^{\circ}$
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
$f_N \pm 0,63\ \text{MHz}$		—	4,5	5,0	dB
$f_N - 0,9\ \text{MHz}$		36	40	—	dB
$f_N + 0,9\ \text{MHz}$		36	42	—	dB
$f_N - 1,7\ \text{MHz}$		37	42	—	dB
$f_N + 1,7\ \text{MHz}$		37	48	—	dB
$f_N - 9,0\ \text{MHz} \dots f_N - 3,0\ \text{MHz}$		39	42	—	dB
$f_N - 3,0\ \text{MHz} \dots f_N - 1,7\ \text{MHz}$		37	42	—	dB
$f_N - 1,7\ \text{MHz} \dots f_N - 0,9\ \text{MHz}$		35	38	—	dB
$f_N + 0,9\ \text{MHz} \dots f_N + 1,7\ \text{MHz}$		34	40	—	dB
$f_N + 1,7\ \text{MHz} \dots f_N + 7,0\ \text{MHz}$		33	36	—	dB
$f_N + 7,0\ \text{MHz} \dots f_N + 9,0\ \text{MHz}$		40	46	—	dB



Normalized transfer function (balanced/balanced):



Normalized transfer function (passband, balanced/balanced):





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Normalized transfer function (wideband, balanced/balanced):

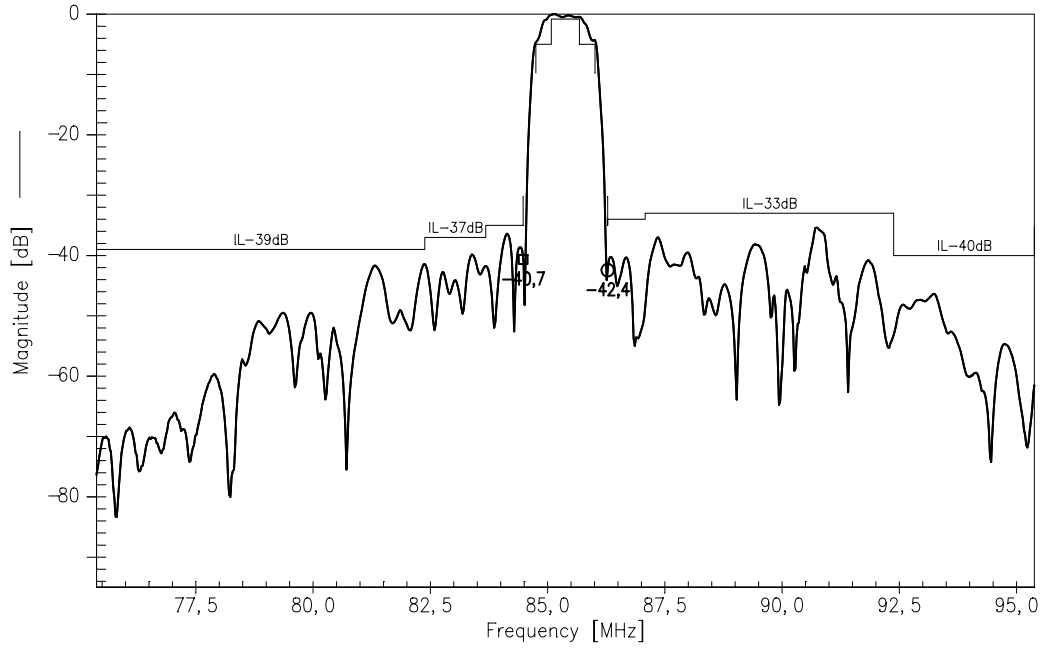




Figure 1: Matching network for 1570Ω / 500Ω configuration

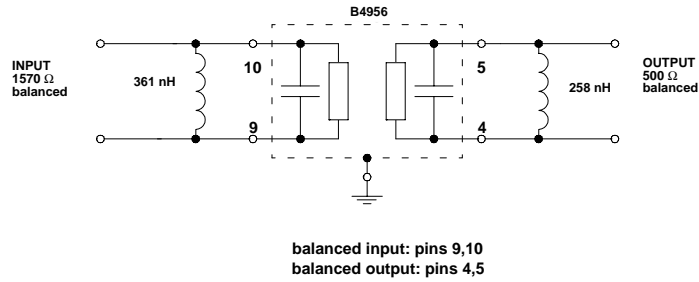
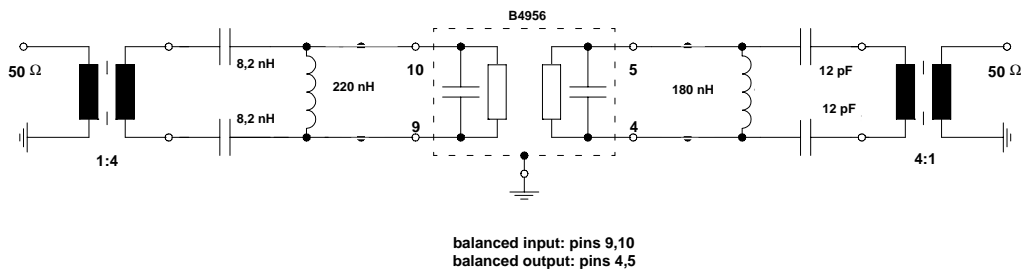


Figure 2: Test matching network

(Element values depend on pcb layout)



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